

MAIL BAGRelated Applications

[0001] This application claims the benefit of application 0028143.6 filed November 17, 2000 in Great Britain.

Background of the InventionField of the Invention

[0002] The invention relates to mail bags, and in particular to hooks for attachment to mail bags for supporting the mail bags in frame fittings.

Description of the Related Art

[0003] Figure 1 of the accompanying drawings illustrates, in plan view, a frame 1 for supporting mail bags. The frame 1 is often known as a "drop bag fitting" (DBF) frame, and is usually rectangular or square in plan view. At each internal corner of the frame 1, a locating wire or projection 2 is provided. The locating projections 2 are provided for supporting a mail bag within the frame in such a way that the mail bag is supported in a open position.

[0004] Figure 2 illustrates a mail bag 4 which is suitable for support in the drop bag fitting frame 1 of Figure 1. The mail bag 4 as a number (in this case 4) of the mail bag hooks 5 arranged around its open end. To support the mail bag the hooks 5 are positioned over the locating projections 2 of the frame 1, thereby holding the mail bag in place in the frame.

[0005] However, existing designs of mail bag hook 5 are less than ideal. For example, one disadvantage of present designs of hook is that they do not retain the mail bag in place on the locating projections of the frame, particularly before the mail bag is filled with mail. One particular existing design uses horizontal wings which extend along the open edge of the mail bag, which wings engage under the frame 1 to retain the bag 4 in place. However, to release these wings can take a considerable effort and operators sometimes find that the hook section molded to the wing section breaks under the load. This then leaves a sharp end section of plastic which has caused injury to operators.

Summary of the Invention

[0006] Accordingly, it is desirable to provide a mail bag hook which can overcome the drawbacks of the presently considered hooks and that provides secure location of a mail bag on the frame, while still allowing relatively straight forward removal of the hook from the projection.

[0007] According to one aspect of the present invention, there is provided a hook for mail bag, the hook comprising a retaining portion for attachment to a region of the mail bag adjacent to an open end thereof, the retaining portion extending substantially perpendicular to the open end of the mail bag, and a suspension ring which extends from the retaining portion and defines an aperture through which a locating projection can be inserted, wherein the hook is provided with a resilient portion which extends in the aperture of the hook, such that in use, the portion is deflected.

[0008] According to another aspect of the present invention, there is provided a hook for a mail bag, the hook comprising a planar attachment portion for attachment to a mail bag, the attachment portion defining a longitudinal axis, a planar supporting portion which extends from the attachment portion in the direction of the longitudinal axis and which is planar with the attachment portion, the supporting portion defining an aperture therethrough, and a retaining portion which extends in the plane of the supporting portion and which partially occludes the aperture of the supporting portion, the retaining portion being resiliently deformable out of the plane of the supporting portion.

Brief Description of the Drawings

[0009] Figure 1 illustrates a prior art drop bag fitting (DBF) frame;

[0010] Figure 2 illustrates a prior art mail bag;

[0011] Figure 3 illustrates a mail bag hook embodying one aspect of the invention;

[0012] Figure 4 illustrates the hook of Figure 3 prior to attachment to the frame of Figure 1; and

[0013] Figure 5 illustrates the hook of Figure 3 attached to the frame of Figure 1.

Detailed Description of the Preferred Embodiment

[0014] Figure 3 illustrates a mail bag hook 5 embodying the present invention. The hook 5 is generally planar (as can be more clearly seen in Figure 4) and extends along a longitudinal axis 8. In the embodiment of Figure 3, the hook 5 is symmetrical about the longitudinal axis 8. The hook 5 is attached to a mail bag 4 by stitching an attachment portion 7 to an edge of the mail bag 4 at its open end. In use, the hook 5 is arranged so that the longitudinal extends substantially perpendicular to the edge of the mail bag 4.

[0015] The hook 5 also includes a supporting portion 9 which extends in the direction of the longitudinal axis 8 from the attachment portion 7. This supporting portion 9 extends away from the end of the mail bag 4 when the hook 5 is attached thereto. The supporting portion 9 defines an aperture 10 through which a compoundly curved locating projection 2 of the frame 1 can be inserted.

[0016] The hook 5 also includes a retaining portion 11 which partially extends across the aperture 10. The retaining portion 11 is resiliently deformable, such that it can bend out of the plane of the hook 5 about a hinge point 13. The retaining portion 11 has a curved top profile 15 which engages with the locating projections 2 of the frame 1 when the hook 5 is in use.

[0017] Figure 4 illustrates a cross sectional view of a hook 5 and a locating projection 2 mounted on the frame 1, prior to attachment of the hook 5 to the projection 2. It will be more clear for Figure 4 that the hook 5 in this unstressed, undeformed state is planar, with the retaining portion 11 being within the supporting portion 9.

[0018] Figure 5 illustrates the hook 5 attached to the projection 2 on the frame 1. In order to attach the hook 5 to the projection 2, the hook 5 is placed over the projection 2 such that the projection 2 extends through the aperture 10 of the hook 5. The projection 2 bends or deforms the retaining portion 11 of the hook 5 out of the plane of the hook 5 as illustrated in Figure 5. The resilience of the retaining portion 11 presses its curved top profile 15 against the underside of the projection 2 so as to hold the hook 5 in place against the projection 2 in a first stressed condition. It can be seen that displacement of the hook 5 from the projection 2 while maintaining the generally vertical alignment of Figures 4 and 5

induces the retaining portion 11 into greater, second stressed conditions. This aspect of the invention inhibits the hook 5 from being inadvertently lifted from the projection 2. However, the resilience of the retaining portion 11 is such that only a relatively small applied force is required to lift the hook 5 from the locating projection 2 when required.

[0019] It will therefore be appreciated that the hook 5 embodying the invention can overcome the disadvantages of the presently-used mail bag hook.

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